



STATE OF WASHINGTON  
DEPARTMENT OF SOCIAL AND HEALTH SERVICES  
*Olympia, Washington 98504*

April 28, 1982

TO: All Site Use Permit Holders

FROM: E. Lee Gronemyer, Manager  
Radioactive Waste Program

SUBJECT: WASHINGTON STATE RADIOACTIVE WASTE DISPOSAL INFORMATION

The increasing volumes of low level waste handled at Washington's disposal facility near Richland calls for a restatement of policies and procedures consistent with the requirements of the United States Department of Transportation (DOT), the United States Nuclear Regulatory Commission (NRC), the State of Washington Administrative Code (WAC), and conditions of the license issued by the department to U S Ecology, Inc., for its operation of the site. Our intention is to address the disposal practices and procedures which have been modified and "fine tuned" over a period of time, and to bring our several previous guidance memoranda together in one policy statement.

As a holder of a Washington State Site Use Permit you have received a copy of our regulations, WAC 402-19-530. These regulations state clearly that each generator/packager and each broker must have a site use permit whenever both are involved in the shipment of low-level radioactive waste (LLW) to Washington.

In the case of brokered shipments, the broker must ascertain that generators have current, unencumbered site use permits prior to receipt of LLW from those generators. The term "letter of intent" is obsolete.

Washington's regulations require that both the generator and the broker(s), when both are in any way involved, must sign the form certifying to the State of Washington that applicable regulations have been met and that the State of Washington is indemnified from all losses associated with the waste shipments in question. In both of these situations, i.e., permits and certification forms, it has come to our attention that all generators of radioactive waste have not applied for site use permits, nor have all generators and brokers been signing the certification form. We are alert to these situations and are informed by our assistant attorney general that irregularities in these areas constitute a clear violation of "Washington State Rules and Regulations for Radiation Protection" and may result in the suspension of site use permits.

U S Ecology, Inc., has recently revised its Radioactive Shipment Report (RSR) to clearly identify the generator of each package of waste received at the site. This generator information is important. Please be advised that the information on the RSR, the certification(s) and the site use permits must be coordinated. Failure to do so may result in the delay of a shipment being accepted for disposal or perhaps not being accepted.

#### Shipment Certification

Clarification has been requested in the past concerning what constitutes brokerage; for example, does a simple telephone call to arrange transportation constitute "brokerage"? Our Assistant Attorney General has opined that such action does indeed fall within the definition of brokerage, the broker's section (Section B) of the certification form must indicate such involvement. However, if no broker is involved with a given shipment, the generator/shipper must so indicate in the broker's section of the form (e.g., "No broker used"). Waste will not be accepted unless the brokerage status of the shipment is indicated.

A properly completed certification form must accompany each shipment of radioactive waste to the low level waste burial site. "Certification", as used here, is a statement signed by: (1) the shipper/ generator of a shipment of radioactive waste, (2) the broker, if one is involved, and (3) the carrier of that shipment of waste. The signators "certify" in part, that the shipment has been inspected for compliance with the laws, rules and regulations relevant to the shipment and that no items of noncompliance were found. The signators, acting as representatives of the permittee, also indemnify the State of Washington, within specified limits, for claims, losses, etc. connected with the material. The certification shall be submitted to a Department of Social and Health Services inspector or designee at the site and must be judged to be properly executed prior to acceptance of the waste by the site operator. The instrument of certification is DSHS form RHF-31A for commercial generators, form RHF-31B for state governments and institutions, or form RHF-31C for federal generators.

It is required that each package of radioactive waste be clearly identified as being so certified and is coming to Washington from a quickly and clearly identifiable, permitted generator. It is intended that one form be executed by one shipper/ generator for one shipment, "shipment" as used here means one truck or semi-trailer as it arrives at the disposal site. The use of individual miniaturized and often poorly executed forms for each package in a shipment imposes a time consuming and unnecessarily onerous inspection procedure. It is sufficient that the single certification relevant to one generator's share of a mixed shipment (two or more generators involving one broker in one truck) be completed only by the generator in Section A, provided that the broker executes one additional form keyed to all the others and completed by broker and carrier in Sections B and C.

#### Reinstatement Procedure

Contrary to what you may be hearing or seeing, the State of Washington has not changed its policy with regard to the reinstatement of suspended site use permits. Following a suspension, reinstatement of a permit to dispose

of low-level radioactive waste in Washington will be made only after the permit holder's waste generation procedures and quality assurance program have been evaluated and found adequate.

We strongly recommend, but do not require, that the radioactive materials licensing agency with jurisdiction (either NRC or an Agreement State) inspect the permit holder's waste generation facilities and procedures prior to our reinstatement. The basis for the review and audit of the permit holder's waste generation facilities and procedures should be the audit program developed by the Waste Generation Committee of the Atomic Industrial Forum or an equivalent procedure.

It is again suggested, but not required, that the Washington Radiation Control Section receive a written report from the permit holder's regulatory agency describing the results of that inspection.

### DISPOSAL OF LIQUIDS

General - Liquids must be treated before they can be accepted at the Washington disposal site. For most liquids such treatment must be either by absorption or solidification processes.

Implicit in the approval of any medium for the treatment of liquids is the requirement that the resultant waste be in compliance with the provisions of DOT, NRC, WAC and the site operator's license. The definition of "free standing liquid" is pertinent to solidified waste. It does not apply to absorbed liquids since the specified "...enough absorbent material to absorb at least twice the volume of radioactive liquid..." provides no leeway.

### Absorbents

A condition of the site operator's license specifies in part, "...the licensee shall not receive any liquids which have not been absorbed or solidified". It further states, "Only absorbents approved by the department shall be used". Since the department lacks the capabilities and facilities for testing and approving absorbents, we are approving only those which have been proven successful over time and through routine use. Capitalizing on information and records of use from the many waste generators, the established list of absorbents is based on acceptable use results and/or individual company testing criteria. The department has reasonable confidence that absorbents listed in Attachment 1 can be used with acceptable results.

The department recognizes the need to keep pace with improving technology and recognizes also that the list of absorbents approved at this time is not all inclusive. We realize that several absorbents in common use have not been listed. We further realize that as experience is gained with absorbents some will be added to the list and perhaps others deleted. Continued acceptance and use of an absorbent will be based on our program of routine surveillance and monitoring of packaged radioactive wastes. The unlisted absorbents currently used by generators are not being overlooked or rejected. The department will approve, on a case by case basis and as data

are supplied, the use of absorbents which do not appear on the list. In order to obtain the department's approval of an absorbent that is not listed in the attachment, testing data must be submitted indicating documented and reproducible experience with the absorbing capabilities of the materials in question. Documentation should describe all details of a quality assurance program including proportions, materials description, temperature, vibration effects and types of liquids absorbed. Attachment II details procedures for the use of such absorbents in the packaging of some specific wastes.

#### Solidification

The alternative treatment for liquids is solidification and Attachment III lists media approved by the department. The mechanism of approval is the same as for absorbents.

#### Waste Forms

Attachment IV, listing license conditions and redundant in part, is an excerpt from a previously issued memo which is included for its substance

#### Regulations

Attachment V is the text of WAC 402-19-530. Requirements for users of the Washington commercial low-level waste disposal site. The department will inform permit holders prior to any changes in license conditions or regulations which may result from implementation of the Northwest Interstate Compact for Low Level Radioactive Waste Management.

#### Summary

These statements of clarification concerning Washington's regulations are made in an attempt to further assure that existing state and federal regulations governing the generation, preparation, packaging, and transportation of low-level radioactive waste have been adhered to before such waste arrives in the State of Washington, and to eliminate any misunderstanding or misinterpretation of the permit and certification requirements in the regulations of the State of Washington and the conditions in the U S Ecology, Inc. radioactive materials license.

Recognizing that new questions and problems will arise, we invite inquiries regarding the disposal of LLW in the State of Washington. Please feel free to call Earl Ingersoll at (206) 753-3353, or Lee Gronemyer at (206) 753-3462.

ATTACHMENT I

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TABLE I - ABSORBENTS

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- A. Diatomaceous Earth (Medium Grind)
- B. Speedi Dry
- C. Celatom (M-P 78)
- D. Floor Dry - Super Fine
- E. Hi Dri
- F. Florco and Florcox
- G. Instant-Dri
- H. Safe-T-Sorb
- I. Oil-Dri (Safe n Dri)
- J. Zonolite - Grade No. 2, 3 or 4 (Vermiculite)

Absorbency efficiencies and volumes of absorbent required could vary. In all cases, it is the responsibility of the waste generator and/or packager to determine the efficiency and proper proportions required for the liquids being absorbed.

## Attachment II

### PROCEDURE A

#### PACKAGING ABSORBED LIQUIDS, INCLUDING OILS

1. Container must meet DOT Specification 7A requirements as listed in 49 CFR 173.395(a)(1-4).
2. Container must be lined with 4 mil plastic liner and sealed at the top when container is packed.
3. Container must be filled with enough absorbent material to absorb at least twice the volume of radioactive liquid contents (ratio based on absorbency and not on volume or weight). Liquid should be placed at approximately every 12 inches of absorbent to ensure even dispersion

### PROCEDURE B

#### PACKAGING OF SCINTILLATION VIALS

1. Container must meet DOT Specification 7A requirements as listed in 49 CFR 173.395(a)(1-4).
2. Container must be lined with 4 mil plastic liner and sealed at the top when container is packed. It is recommended that a layer of absorbent be placed in the bottom of the drum prior to the installation of the plastic liner.
3. Place approximately 3 inches of absorbent at the bottom of the container, inside the plastic liner. Vials and absorbent must be placed in the container in alternate layers not exceeding 6 inches in depth. The top layer of absorbent must be at least 3 inches in depth.
4. The vials are NOT to be opened.
5. Container must be filled with enough absorbent material to absorb at least twice the volume of radioactive liquid contents (ratio based on absorbency not on volume or weight).

### PROCEDURE C

#### PACKAGING ANIMAL CARCASSES

1. All containers must meet DOT performance specification 7A. The final package will be a double-walled metal container with the outer container having a capacity at least 40 percent greater than the inner container (e.g., a 30 gallon drum in a 55-gallon or a 55-gallon drum in an 85-gallon drum).
2. Line the inner metal drum with 4 mil plastic liner.

3. Place animal carcasses into the inner metal drum with absorbent and lime. Ratio: One part lime to ten parts absorbent.
4. Seal plastic liner and inner metal drum.
5. Place a minimum of 3 inches of absorbent in bottom of outer drum.
6. Place the inner metal drum inside the outer metal drum.
7. Place enough absorbent between the inner and outer drum to completely fill the void space.
8. Seal the outer drum.

A written request must be submitted and Departmental approval received prior to use of any absorbent not listed in Table 1. This request must contain the following information:

1. A statement of the absorbency of the material as determined by the manufacturer and copy of the manufacturer's descriptive information.
2. Absorbency for the actual liquid to be disposed must be determined by a bench test (e.g., Westinghouse, Gardner Coleman).
3. Additional factors such as vibration tests, gas generation, long term chemical and radiological stability.

Approval of the absorbent or the procedure approval by the Department does not alter any liability or surety arrangements..

### ATTACHMENT III

#### Approved Solidification Media

1. Asphalt
2. Delaware Custom Media
3. Dow Media
4. Portland Cement
5. U.S. Gypsum's Envirostone Cement
6. Other solidification media and processes as approved by NRC and/or the department.



# ATTACHMENT IV

Several conditions of the US Ecology, Inc. radioactive materials license deal with authorized waste forms. These license conditions may require generators to change their waste handling procedures. Waste received by U S Ecology, Inc., after the effective date of the license conditions must be in an authorized waste form. The authorized waste forms are:

<u>Effective Date</u>	<u>Waste Form</u>	<u>License Condition No.</u>
In Effect	Liquids containing more than 1% oil must be either solidified, i.e., have no detectable free-standing liquid (not more than 0.5% or one gallon per container, whichever is less); or, absorbed with twice the absorbency required for the total volume of liquid.	26, 27
In Effect	Liquids (not otherwise specified) must be absorbed or solidified; solidified liquids shall have no detectable free-standing liquid (not more than 0.5% or one gallon per container, whichever is less).	27
	Absorbed liquids must be absorbed by enough approved absorbent material to absorb twice the amount of liquid present.	27
	Dewatered ion exchange resins and filter media must have no detectable free-standing liquids (i.e., not more than 0.5% or one gallon per container, whichever is less).	27f
In Effect	Ion exchange resins and filter media containing radioactive material having a concentration of 1 uCi/cc or greater of materials with half life greater than 5 years must be stabilized by solidification.	27(k)
December 31, 1983	Until this date liquid scintillation vials and liquids and other organics in 50 milliliter or less size vials used in clinical or laboratory testing may also be accepted.	27(b) and 27(c)

The dates for compliance with the license conditions were established so that industry and government would have adequate lead time to make necessary changes in waste handling equipment and processes.

ATTACHMENT V

Wac 402-19-530 Requirements for users of the Washington commercial low-level waste disposal site.

- (1) Purpose and scope. Each generator/shipper and each broker of low-level waste shall have a site use permit prior to the disposal of such wastes at any commercial low-level radioactive waste burial site located in the State of Washington. The term "broker" as used in these regulations shall mean any person who acts as an agent or intermediary for a generator/shipper or another person collecting and/or agreeing to arrange for the transport of radioactive waste generated by others, provided it shall not include a carrier whose sole function is to transport low-level radioactive waste.
- (2) Site use permit.
  - (a) Filing application for site use permit.
    - (i) Application for a site use permit shall be filed on departmental form RHF-30 or a clear legible record containing all the information required on that form including but not limited to: U.S. Nuclear Regulatory Commission or agreement state license number, name of company, address, 24-hour telephone number, and contact person.
    - (ii) Each application shall be signed by the applicant or a person duly authorized to act for or on the applicant's behalf.
  - (b) A site use permit must be obtained before disposal of low-level radioactive waste at any waste burial site is permitted.
  - (c) Each permit shall be renewed annually.
  - (d) Revocation of permit.
    - (i) The failure of one or more packages in a shipment of waste to be in compliance with the requirements of Title 402 WAC, the U.S. Nuclear Regulatory Commission, or the U.S. Department of Transportation, may cause the revocation of this use permit for the responsible waste generator/shipper or broker. Failure to comply with the requirements in the preceeding sentence may bar the acceptance of any other or subsequent shipment by the same generator/shipper or broker at the site.
    - (ii) The site use permit may be revoked for a specific generator/shipper or broker if a refusal to accept one or more of the shipments has been made by any other licensed commercial low-level waste burial site within the United States.
    - (iii) The site use permit may be reinstated provided the generator/shipper or broker submits documentation approved by the department describing its quality assurance program to achieve compliance for future shipments.

- (3) Waste shipment certification. A low-level radioactive waste shipment certification shall be required to accompany each shipment of radioactive waste to the licensed low-level waste burial site. The certification shall be submitted at the burial site to the Department of Social and Health Services or its designee and must be judged to be properly executed prior to acceptance of the waste by the site operator. The certification shall be on departmental form RHF-31 or a clear legible record containing all the information required in that form, or the certification form provided for in executive order E0-79-09. The information shall include but is not limited to name of company, volume of waste in shipment, shipment number, permit number (when issued), and date.



STATE OF WASHINGTON  
DEPARTMENT OF SOCIAL AND HEALTH SERVICES  
*Olympia, Washington 98504*

June 29, 1983

TO: Site Use Permit Holders

FROM: E. Lee Gronemyer, Manager  
Radioactive Waste Program

SUBJECT: WASHINGTON STATE RADIOACTIVE WASTE DISPOSAL

This is to update and reconfirm elements of our memorandum on the same subject dated April 28, 1982. Events during the year since that memo indicate some points may not have been made clear or may not have been understood as points of serious concern.

- Item: A telephone call made by a third party to arrange transportation of a generator's radioactive waste by a carrier does constitute "brokerage" and must be indicated by that third party's completing and signing Section B, For the Broker, of the certification form DSHS RHF-31.
- Item: It is the responsibility of any person acting as and assuming the responsibility of a broker to ascertain that each generator for whom he acts has a valid, current and unencumbered site use permit and that the permit is referenced by correct number and the proper name of the entity to whom issued.
- Item: To correct an omission in the referenced memo, the department is making a change in the certification requirement for a brokered shipment from multiple generators as outlined in that memo. It is sufficient that the single certification relative to one generator's share of a mixed shipment be completed by the generator in Section A and by the broker in Section B, provided the broker executes one additional form RHF-31 keyed to the others and completed by the broker and by the carrier.
- Item: There are only two ports of entry through which shipments of radioactive waste to the commercial low level waste disposal site at Richland may legally enter the state of Washington. One is near Plymouth, Washington on State Route 14, the other about 20 miles east of Spokane, Washington on I-90. These are closed on New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. In addition, the Plymouth station is closed daily between the hours of 5:30 a.m. and 8:30 a.m. Shipments of radioactive waste to the commercial low level waste disposal site at Richland may not enter the state during those closures.

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Item The Washington Administrative Code (WAC) has been amended to read as follows.

WAC 440-44-060 Site Use Permit Fee

(1) The fees for a site use permit effective October 1, 1983 are

One Time Shipment (see WAC 440-44-060(2))	\$50.00
Site Use Permit Continuous Service	\$80.00 per year

(2) One Time Shipment A generator having radioactive waste for disposal for one time only can obtain a site use permit for such a shipment. This permit terminates upon receipt of the shipment for disposal and cannot be reissued to a generator.

(3) A broker who takes possession of waste from a generator and assumes responsibility for that waste must also assume responsibility for assuring the generator has a current unencumbered site use permit.

Generally, the response to the referenced memorandum has been gratifying. We encourage the continued attention to detail that results in clean, trouble free operations in not only radiation related aspects but also the paper work and hardware aspects of radioactive waste disposal.

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